

REMARKS

In view of the following remarks, further reconsideration is respectfully requested.

I. 35 U.S.C. § 103 Rejections

Claims 1, 4, 5, 7, 8 and 12-15 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Dowdell (U.S. 5,301,263) and Gardiner (U.S. 6,052,125). Further, claims 9 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dowdell, Gardiner and Narayanaswami (U.S. 6,160,557). These rejections are believed clearly inapplicable to independent claims 1 and 12 and the claims that depend therefrom for the following reasons.

Independent claim 1 recites a three-dimensional shape drawing device including a depth value calculation section, a high order Z-buffer memory, a low order Z-buffer memory (for retaining low order bits of a depth value of a pixel to be displayed as a front face, such that a number of the low order bits is equal to or larger than a number of high order bits retained in the high order Z-buffer memory), and a high order Z-buffer clearing section for initializing a depth value of the pixel to be displayed as the front face and retained by the high order Z-buffer memory with a predetermined value, wherein the predetermined value indicates one of a shallowest depth value and a deepest depth value, such that, when the predetermined value is not the deepest depth value, the predetermined value is the shallowest depth value.

Initially, the Applicant notes that the above-mentioned 35 U.S.C. § 103(a) rejection acknowledges that Dowdell fails to disclose or suggest the limitations required by the high order Z-buffer, as recited in claim 1. In light of the above, the present rejection relies on col. 11, lines

33-40 of Gardiner for teaching the above-mentioned features that are admittedly lacking from Dowdell (see page 5 of Office Action).

However, it is submitted that Gardiner fails to disclose or suggest the above-mentioned distinguishing features required by claim 1. Rather, col. 11, lines 33-40 of Gardiner merely teach that a full buffer is initialized to the furthest possible depth value, which essentially means that the full buffer is initialized in batch processing.

Thus, in view of the above, it is clear that Gardiner teaches that the full buffer is initialized to the furthest possible depth value, which essentially means that the full buffer is initialized in batch processing, but fails to disclose or suggest initializing the depth value of the pixel to be displayed as the front face and retained by the high order Z-buffer memory with a predetermined value, wherein the predetermined value indicates one of a shallowest depth value and a deepest depth value, such that, when the predetermined value is not the deepest depth value, the predetermined value is the shallowest depth value, as recited in claim 1.

In other words, even though Gardiner teaches that the full buffer is initialized to the furthest possible depth value, such that the full buffer is initialized in batch process, Gardiner still fails to disclose or suggest initializing the high order bits (i.e., pixels retained in the high order Z-buffer memory) and the low order bits separately upon clearing the Z-buffer memory, as required by claim 1.

Therefore, because of the above-mentioned distinctions it is believed clear that claim 1 and claims 4, 5, 7-10 and 17 that depend therefrom would not have been obvious in view of the combination of Dowdell and Gardiner.

Furthermore, there is no disclosure or suggestion in Dowdell and/or Gardiner or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art

to modify Dowdell and/or Gardiner to obtain the invention of independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 and claims 4, 5, 7-10 and 17 that depend therefrom are clearly allowable over the prior art of record.

Regarding dependent claims 9 and 10, which were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dowdell and Gardiner (main references) in view of Narayanaswami (additional reference), it is respectfully submitted that this additional reference does not disclose or suggest the above-discussed features of independent claim 1, which are lacking from the main references. Therefore, no obvious combination of the main references with the additional reference would result in, or otherwise render obvious, the invention recited independent claim 1 and the claims that depend therefrom.

Amended independent claim 12 is directed to a method and recites features that correspond to the above-mentioned distinguishing features of independent claim 1. Thus, for the same reasons discussed above, it is respectfully submitted that independent claim 12 and claims 13-15 that depend therefrom are allowable over the prior art of record.

II. Conclusion

In view of the above amendment and remarks, it is submitted that the present application is now in condition for allowance and an early notification thereof is earnestly requested. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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